# The Virginia Annual Recycling Rate Report

# Calendar Year 2006 Summary

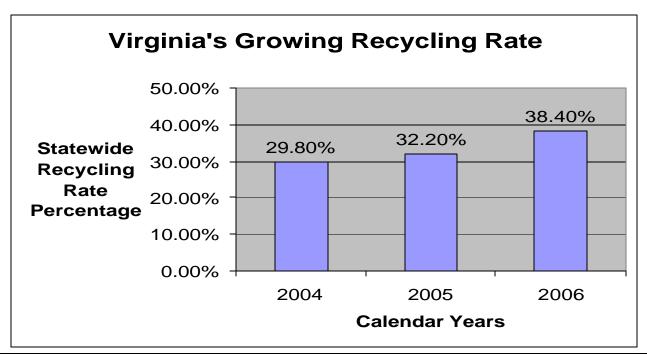


November 2007



### VIRGINIA'S STATEWIDE RECYCLING RATE FOR CALENDAR YEAR 2006

The Virginia Department of Environmental Quality (DEQ) has completed its review of the recycling rate data reported for calendar year (CY) 2006. The data for this summary report was compiled from the reports submitted by the 74 solid waste planning units (SWPUs), and represents recycling information from 325 Virginia cities, counties and towns. In some cases, reported data was adjusted for consistency with the <u>Virginia Solid Waste Planning Regulation</u> (9 VAC 20-130 et. seq.).



### **Statewide Recycling Rate Data**

- 2006 3,700,487 tons of material recycled or reused, and 9,706,554 tons of solid waste generated (calculation includes + .3 % for source reduction initiatives)
- 2005 2,757,442 tons of material recycled or reused, and 8,554,784 tons of solid waste generated.
- 2004 2,688,200 tons of material recycled or reused, and 9,016,087 tons of solid waste generated.

#### **Areas Reporting Highest Rates**

Most of the higher recycling rates were reported in the more highly populated areas of the state. For CY 2006, these areas reported a total of 3,191,221 recycled tons, or 86 % of all recyclables collected, and had a calculated average recycling rate of 40.8 %. These areas include:

|                            | Recyc          | ling Rates by  | y Year         |
|----------------------------|----------------|----------------|----------------|
| Area_                      | <b>CY 2006</b> | <b>CY 2005</b> | <b>CY 2004</b> |
| Bristol Area               | <b>37.8</b> %  | 39.4 %         | 40.6 %         |
| Roanoke Area               | 29.6 %         | 33.9 %         | 32.3 %         |
| Lynchburg Area             | 39.1 %         | 32.8 %         | 31.7 %         |
| Northern Shenandoah Valley | 28.8 %         | 26.0 %         | <b>29.7 %</b>  |
| Fredericksburg Area        | 40.4 %         | 30.6 %         | 28.8 %         |
| Richmond Area              | 46.3 %         | 45.2 %         | 44.6 %         |
| Northern Virginia          | 33.4 %         | 32.0 %         | 32.8 %         |
| Hampton Roads              | 50.9 %         | 36.1 %         | 29.8 %         |

### **Trends Observed in CY 2006 Reports**

In reviewing the statewide totals from the recycling rate reports, the following trends were observed:

- PRMs Recycled 11 % increase over CY 2005 (PRMs = Principal Recyclable Materials such as paper, metals, plastics, etc.)
- SRMs Recycled 11 % increase over CY 2005
- SRMs Reused 172 % increase over CY 2005

(SRMs = Supplemental Recyclable Materials such as waste tires, used oil, electronics, construction and demolition debris materials, etc.)

• MSW disposed 4 % increase over CY 2005 (MSW disposed = waste delivered to a sanitary landfill or incinerator for disposal)

As a subset of these categories, the commodity capture rates changed as indicated:

• Metals 20 % increase over CY 2005

| • | Paper           | 4 % decrease over CY 2005  |
|---|-----------------|--|
| • | Commingled      | 33 % increase over CY 2005, as would be expected with the growing use of single-stream collections |
|   |                 | with the growing use of single-stream concetions   |
| • | Used oil        | 22 % decrease over CY 2005   |
| • | Electronics     | 280 % increase over CY 2005, as new programs and eCycling vendors expanded collections             |
|   |                 | and ecycling vehicors expanded conections  |
| • | <b>Plastics</b> | stable at CY 2005 levels   |
| • | Glass           | 2 % decrease over CY 2005  |

The statewide recycling rate increased by 6.2 percentage points in CY 2006 over CY 2005. This increase was due in part to the recycling credits authorized for the recycling and reuse of non-MSW materials and source reduction initiatives.

### **SWPUs Meeting the Required Rate**

In each of the last four reporting years, more of the reporting entities are meeting the required recycling rate:

| Year (% meeting rate) | # Reports | 25 % or Greater | 15% to<br>25 % | # below mandated recycling rate |
|-----------------------|-----------|-----------------|----------------|---------------------------------|
| CY 2003 (35 %)        | 96        | 34              | n/a            | 62                              |
| CY 2004 (48 %)        | 95        | 46              | n/a            | 49                              |
| CY 2005 (61 %)        | 74        | 45              | n/a            | 29                              |
| CY 2006 (86 %)        | 74        | 46              | 18             | 10                              |

For CY 2006, a two-tiered recycling mandate was in effect as required by the *Code of Virginia* (http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+10.1-1411). Each SWPU was to achieve a minimum 25 % recycling rate *unless* its population density was less than 100 persons per square mile or its civilian unemployment rate was 50 % or more above the state wide unemployment average. SWPUs meeting these criteria were required to achieve a minimum 15 % recycling rate. Using this two-tiered recycling mandate system, 64 of the 74 SWPUs (or 86 %) met or exceeded their minimum mandated recycling rate. As was evidenced in previous years, the SWPUs reporting recycling rates less than 25 % are mostly

lightly populated in makeup, with limited recycling resources and access to markets.

### **Solid Waste Management Planning and Recycling Action Plans**

DEQ continues to review the required Solid Waste Management Plans (SWMPs) submitted by the SWPUs for completeness, including locality or regional recycling program information. For the plans already reviewed and in which the SWPU has reported less than a 15 % or 25 % recycling rate, DEQ will require a Recycling Action Plan (RAP) to identify specific elements of the recycling program that will be changed or improved in order for the SWPU to reach its recycling rate. The RAP requires both a commitment by the SWPU to provide resources necessary to improve its program, as well as a timeline for achieving the program elements. The RAP must be adopted by the administrative governmental board(s) for all localities covered by the Solid Waste Management Plan, and then approved by DEQ. Regular reporting on the progress made on the RAP elements is required.

#### **Recycling Data Concerns**

The Technical Advisory Committee (TAC) studying changes in the recycling requirements as a component of the *Regulations for Solid Waste Management Planning* (<a href="http://www.deq.virginia.gov/waste/wastereg130.html">http://www.deq.virginia.gov/waste/wastereg130.html</a>) due to the 2006 legislation requested this clarification be included in the annual report:

"Due to the complexity and difficulty in obtaining data, this report reflects the best efforts of the planning units to represent recycling in Virginia"

In addition, the TAC is on record encouraging the reporting of recycling data by all sectors in order to make these numbers as representative of the actual condition as possible:

"Entities engaged in the collection, processing and marketing of recyclable materials should provide data for incorporation into the recycling rate calculation, when requested by the planning unit".

# **Calculated Recycling Rates for CY 2006**

## **Recycling Rates and Data \***

| REPORTING ENTITY                  | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |
|-----------------------------------|----------------------------------|--|--|
| Statewide Totals                  | 38.4 % Statewide                 | 3,700,487  | 9,706,554  |
| Accomack County SWPU              | 16.3                             | 7,931  | 48,546   |
| Alexandria (City) SWPU            | 24.3                             | 49,344   | 202,895  |
| Alleghany Highlands SWPU          | 31 *                             | 8,896  | 25,703   |
| Amelia County SWPU                | 24.9                             | 2,572  | 10,332   |
| Amherst County SWPU               | 25.2                             | 9,186  | 36,518   |
| Appomattox County SWPU            | 29.1 *                           | 2,846  | 10,491   |
| Arlington County SWPU             | 42.7 *                           | 104,323  | 256,570  |
| Augusta –Staunton-Waynesboro SWPU | 28.7                             | 42,741   | 149,087  |
| Bath County SWPU                  | 15.8                             | 960  | 6,093  |
| Bedford (City) SWPU               | 37.5 *                           | 6,991  | 12,353   |
| Bedford County SWPU               | 37.8 *                           | 25,863   | 72,311   |
| Botetourt County SWPU             | 18.5 *                           | 5,763  | 28,343   |
| Bristol (City) SWPU               | 37.8                             | 15,814   | 41,786   |
| Brunswick County SWPU             | 8.5                              | 1,682  | 19,787   |
| Buckingham County SWPU            | 22.1                             | 3,019  | 13,664   |
| Campbell County SWPU              | 22.2                             | 15,015   | 67,710   |
| Caroline County SWPU              | 38.3                             | 7,583  | 19,812   |

| REPORTING ENTITY   | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |
|--|----------------------------------|--|--|
| Carroll-Grayson-Galax SWPU   | 19.2                             | 7,794  | 40,581   |
| Central Virginia Waste Management<br>Authority SWPU (Counties of<br>Charles City, Chesterfield,<br>Goochland, Hanover, Henrico, New<br>Kent, Powhatan, Prince George;<br>Cities of Richmond, Hopewell,<br>Colonial Heights and Petersburg) | 46.3                             | 400,323  | 865,551  |
| Craig County SWPU  | 26.1                             | 1,021  | 3,915  |
| Culpeper County SWPU   | 33.6                             | 14,430   | 42,917   |
| Cumberland Plateau Regional Waste<br>Management Authority SWPU<br>(Buchanan, Dickenson and Russell<br>Counties)  | 29.1                             | 23,032   | 79,157   |
| Danville (City) SWPU   | 28.1                             | 10,980   | 39,076   |
| Fairfax (City) SWPU  | 39.4 *                           | 19,361   | 49,091   |
| Fairfax County SWPU  | 35.3 *                           | 497,577  | 1,496,165  |
| Falls Church (City) SWPU   | 51.7 *                           | 6,898  | 13,881   |
| Fauquier County SWPU   | 25.3                             | 23,268   | 92,132   |
| Floyd County SWPU  | 11                               | 1,678  | 15,260   |
| Franklin County SWPU   | 30.5                             | 15,257   | 49,988   |
| Gloucester County SWPU   | 27.7                             | 13,915   | 50,163   |
| Greater Rockingham SWPU  | 25.7 *                           | 11,072   | 46,708   |
| Harrisonburg (City) SWPU   | 25.4 *                           | 30,303   | 75,881   |
| Herndon (Town) SWPU  | 39.1                             | 10,534   | 26,953   |
| Highland County SWPU   | 26.9                             | 624  | 2,320  |

| REPORTING ENTITY   | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |
|--|----------------------------------|--|--|
| King George County SWPU  | 13.2 *                           | 30,753   | 47,753   |
| Lee County SWPU  | 11 *                             | 12,706   | 30,210   |
| Loudoun County SWPU  | 30.2                             | 95,141   | 315,487  |
| Louisa County SWPU   | 23.8                             | 6,466  | 27,139   |
| Lunenburg County SWPU  | 12.2                             | 1,754  | 14,395   |
| Lynchburg (City) SWPU  | 46 *                             | 112,007  | 240,779  |
| Madison County SWPU  | 10.5                             | 829  | 7,865  |
| Manassas (City) SWPU   | 27                               | 11,327   | 41,923   |
| Manassas Park (City) SWPU  | 9.9                              | 625  | 6,322  |
| Martinsville (City)/Henry County<br>SWPU   | 27.7 *                           | 39,087   | 113,316  |
| Montgomery Regional Solid Waste<br>Authority SWPU (Montgomery<br>County, Blacksburg and<br>Christiansburg)                           | 27.3                             | 27,785   | 101,636  |
| Mount Rogers PDC SWPU (Counties of Bland, Smyth, Washington, and Wythe)  | 28.2                             | 29,337   | 103,963  |
| Newport News (City) SWPU   | 45.7 *                           | 214,834  | 362,782  |
| New River Resource Authority SWPU<br>(Counties of Pulaski and Giles; City<br>of Radford)   | 26.2                             | 22,589   | 86,070   |
| Northampton County SWPU  | 7.6 *                            | 1,775  | 21,673   |
| Northern Neck PDC SWPU (Counties of Lancaster, Northumberland, Richmond and Westmoreland)  | 20.2                             | 9,725  | 48,161   |
| Northern Shenandoah Valley Regional Commission SWPU (Counties of Clarke, Frederick, Shenandoah, Warren and Page; City of Winchester) | 28.8                             | 74,568   | 259,366  |

| REPORTING ENTITY   | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |
|--|----------------------------------|--|--|
| Nottoway County SWPU   | 26.9                             | 7,629  | 28,335   |
| Orange County SWPU   | 16.6 *                           | 4,014  | 21,024   |
| Patrick County SWPU  | 10.2                             | 967  | 9,446  |
| Pittsylvania County SWPU   | 23.9                             | 10,295   | 43,093   |
| Prince Edward - Cumberland SWPU  | 15.3                             | 4,352  | 28,354   |
| Prince William County SWPU   | 37 *                             | 167,402  | 478,068  |
| Rappahannock County SWPU   | 18.1                             | 1,693  | 9,366  |
| Rappahannock Regional Solid Waste<br>Management Board SWPU (County<br>of Stafford and City of<br>Fredericksburg)   | 40.4                             | 73,775   | 182,736  |
| Roanoke (City) SWPU  | 37.2                             | 29,918   | 80,459   |
| Roanoke County SWPU  | 29.3                             | 18,999   | 64,798   |
| Rockbridge – Lexington – Buena<br>Vista SWPU   | 24.5                             | 7,744  | 31,552   |
| Salem (City) SWPU  | 34                               | 12,291   | 36,168   |
| Scott County SWPU  | 19.7                             | 2,942  | 14,924   |
| Southeastern Public Service Authority SWPU (Counties of Isle of Wight and Southampton; Cities of Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk, and Virginia Beach) | <b>55</b> *                      | 908,103  | 1,686,015  |
| Southern Crater Region SWPU<br>(Counties of Dinwiddie, Greensville,<br>Surry, and Sussex; City of Emporia)   | 18.1                             | 13,285   | 73,439   |
| Southside Regional PSA SWPU<br>(Counties of Charlotte, Halifax and<br>Mecklenburg)   | 17.4                             | 19,216   | 110,649  |
| Spotsylvania County SWPU   | 31.3                             | 39,862   | 127,305  |

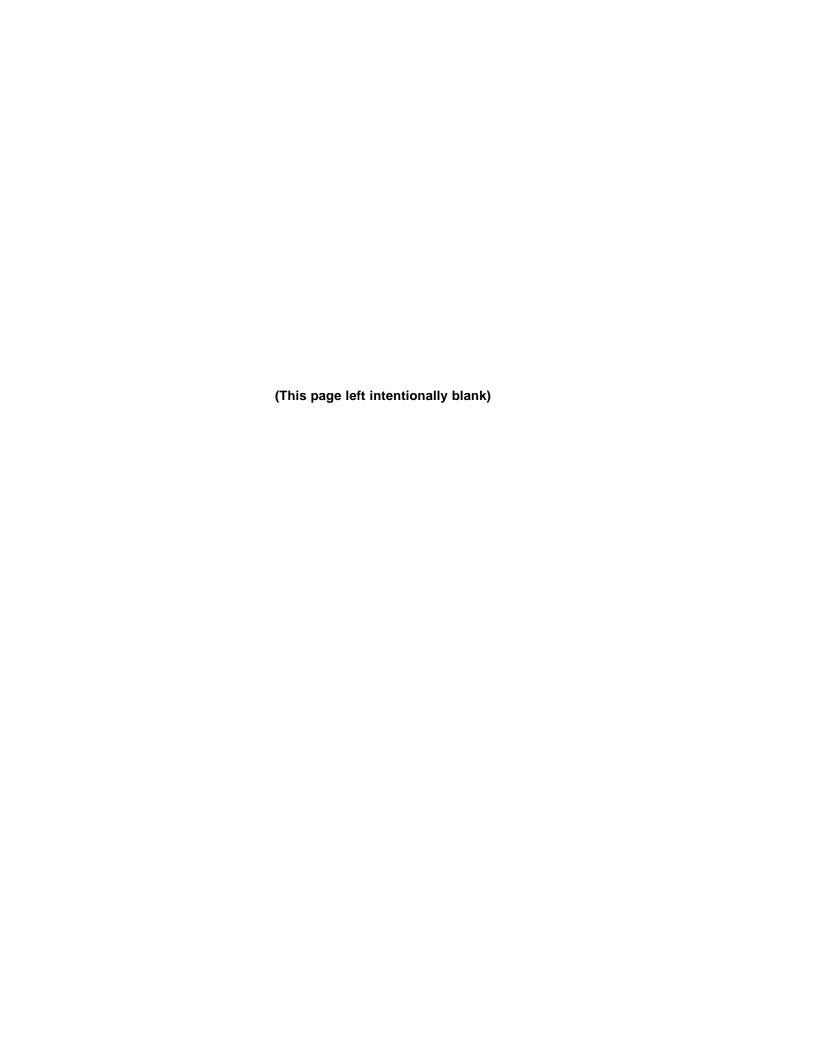
| REPORTING ENTITY  | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |
|---|----------------------------------|--|--|
| Tazewell County SWPU  | 26.2 *                           | 23,189   | 77,808   |
| Thomas Jefferson PDC SWPU<br>(Counties of Albemarle, Fluvanna,<br>Greene and Nelson; City of<br>Charlottesville)  | 34.3 *                           | 78,005   | 241,413  |
| Vienna (Town) SWPU  | 55.1                             | 6,651  | 12,078   |
| Vinton (Town) SWPU  | 35.7                             | 2,316  | 6,493  |
| Virginia Peninsulas Public Service<br>Authority SWPU (Counties of Essex,<br>James City, King & Queen, Mathews,<br>Middlesex, and York; Cities of<br>Hampton, Poquoson, and<br>Williamsburg) | 34.5 *                           | 159,703  | 446,662  |
| Wise County SWPU  | 32.7                             | 18,235   | 55,792   |
| STATEWIDE TOTALS CY 2006  | 38.4 %                           | 3,700,487<br>Tons  | 9,706,554<br>Tons  |

**PRMs** = **Principal Recyclable Materials** 

**SRMs** = **Supplemental Recyclable Materials** 

**Credits = Recycling Residues, Solid Waste Reused, Non-MSW Recycled, Source Reduction** 

<sup>\*</sup> All data based on adjustments by DEQ for consistency with 9VAC-20-130-10 and 9VAC20-130-120, with a 5 % maximum percentage allowed for credits to the base recycling rate calculated by a solid waste planning unit. A 2 % source reduction credit may be added to the calculated recycling rate for a documented source reduction program.



## **Recycling Rate Report Summary**

### **Virginia Localities Reporting Rate Information for CY 2006**

**74 Recycling Rate Reports**, representing **325 Virginia localities** and every **Solid Waste Planning Unit** were received. This represents a return rate of 100 %. Totals for all reports are presented below:

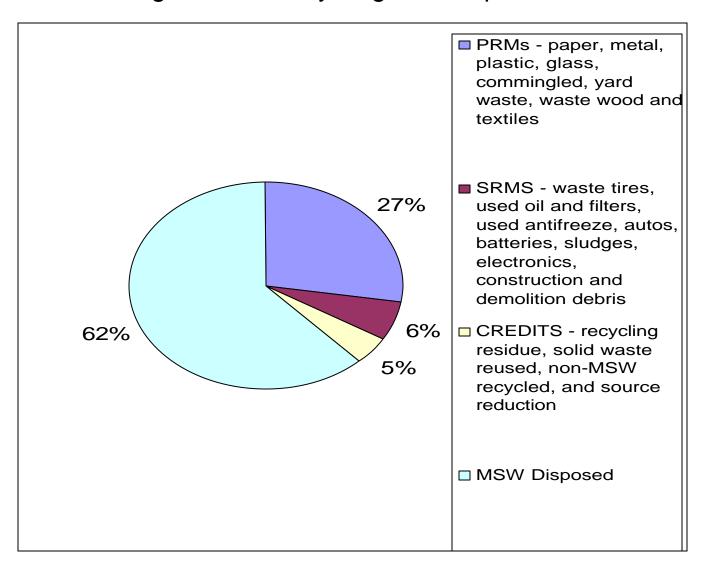
| Principal Recyclable Material Supplemental Recyc |           |                                | ntal Recyclab                           | le Material (SRN        | <b>M</b> ) | Total MSW Disposed                    |           |
|--|-----------|--------------------------------|---|-------------------------|------------|---------------------------------------|-----------|
| (PR  | M)        | Recycled S                     | RM                                      | Reused                  | SRM        |                                       |           |
| Paper  | 922,024   | Waste Tires                    | 70,210                                  | Const. Waste            | 46,265     | Household                             | 4,259,862 |
| Metal  | 704,127   | Used Oil                       | 51,281                                  | Demol. Waste            | 37,430     | Waste                                 |           |
| Plastic  | 30,159    | Used Oil Filters               | 1,980                                   | Debris Waste            | 39,059     | Commercial                            | 1,613,349 |
| Glass  | 39,278    | Used Antifreeze                | 2,633                                   | Ash                     | 218,833    | Waste                                 |           |
| Commingled                                       | 112,413   | Auto Bodies                    | 9,127                                   | Other:                  | 1,244      | Institutional                         | 70,940    |
| Yard Waste                                       | 563,968   | Batteries                      | 18,825                                  |                         |            | Waste                                 |           |
| Waste Wood                                       | 243,076   | Sludge<br>(Composted)          | 22,721                                  |                         |            | Other:                                | 61,915    |
| Textiles   | 42,817    | Electronics                    | 7,820                                   |                         |            |                                       |           |
|  |           | Tree Stumps (>6"<br>Diameter)  | 53,089                                  |                         |            | TOTAL<br>MSW (M)                      | 6,006,067 |
| Total PRM (P) (Tons)                             | 2,657,862 | Other:                         | 21,227                                  |                         |            | (Tons)                                |           |
|  |           | Recycled SRM<br>(Tons)         | 258,914                                 | Reused<br>SRM<br>(Tons) | 342,830    | TOTAL<br>SRM (S)<br>(Tons)            | 601,744   |
|  |           | CREDITS                        |   |                         |            |                                       |           |
|  |           | Recycling Residue              | 11,648                                  |                         |            |                                       |           |
|  |           | Solid Waste<br>Reused          | 390,483                                 |                         |            |                                       |           |
|  |           | Non-MSW<br>Recycled            | 38,750                                  |                         |            | State Recyclin                        | g Rate:   |
|  |           | TOTAL CREDITS (C) (Tons)       | 440,881                                 |                         |            | P+S+C+M) x 100<br>9,706,554)X100)+.3% | 38.4 %    |
|  |           | 2 % Source<br>Reduction Credit | 18 entities,<br>equaling<br>.3% overall |                         | I          |                                       |           |

<sup>\*</sup> All data based on adjustments by DEQ for consistency with 9VAC-20-130-10 and 9VAC20-130-120.

# **RECYCLING IN VIRGINIA, CY 2006**

## **Statewide Recycling Rate of 38.4 %**

## MSW Management - Recycling and Disposal



**PRMs** = **Principal Recyclable Materials** 

**SRMs** = **Supplemental Recyclable Materials** 

Credits = Recycling Residues, Solid Waste Reused, Non-MSW Recycled, Source Reduction

# The Virginia Annual Recycling Rate Report

# Calendar Year 2006 Summary

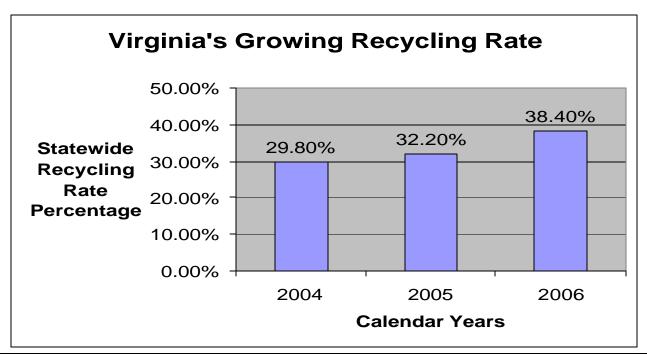


November 2007



### VIRGINIA'S STATEWIDE RECYCLING RATE FOR CALENDAR YEAR 2006

The Virginia Department of Environmental Quality (DEQ) has completed its review of the recycling rate data reported for calendar year (CY) 2006. The data for this summary report was compiled from the reports submitted by the 74 solid waste planning units (SWPUs), and represents recycling information from 325 Virginia cities, counties and towns. In some cases, reported data was adjusted for consistency with the <u>Virginia Solid Waste Planning Regulation</u> (9 VAC 20-130 et. seq.).



### **Statewide Recycling Rate Data**

- 2006 3,700,487 tons of material recycled or reused, and 9,706,554 tons of solid waste generated (calculation includes + .3 % for source reduction initiatives)
- 2005 2,757,442 tons of material recycled or reused, and 8,554,784 tons of solid waste generated.
- 2004 2,688,200 tons of material recycled or reused, and 9,016,087 tons of solid waste generated.

#### **Areas Reporting Highest Rates**

Most of the higher recycling rates were reported in the more highly populated areas of the state. For CY 2006, these areas reported a total of 3,191,221 recycled tons, or 86 % of all recyclables collected, and had a calculated average recycling rate of 40.8 %. These areas include:

|                            | Recyc          | ling Rates by  | y Year         |
|----------------------------|----------------|----------------|----------------|
| Area_                      | <b>CY 2006</b> | <b>CY 2005</b> | <b>CY 2004</b> |
| Bristol Area               | <b>37.8</b> %  | 39.4 %         | 40.6 %         |
| Roanoke Area               | 29.6 %         | 33.9 %         | 32.3 %         |
| Lynchburg Area             | 39.1 %         | 32.8 %         | 31.7 %         |
| Northern Shenandoah Valley | 28.8 %         | 26.0 %         | <b>29.7 %</b>  |
| Fredericksburg Area        | 40.4 %         | 30.6 %         | 28.8 %         |
| Richmond Area              | 46.3 %         | 45.2 %         | 44.6 %         |
| Northern Virginia          | 33.4 %         | 32.0 %         | 32.8 %         |
| Hampton Roads              | 50.9 %         | 36.1 %         | 29.8 %         |

### **Trends Observed in CY 2006 Reports**

In reviewing the statewide totals from the recycling rate reports, the following trends were observed:

- PRMs Recycled 11 % increase over CY 2005 (PRMs = Principal Recyclable Materials such as paper, metals, plastics, etc.)
- SRMs Recycled 11 % increase over CY 2005
- SRMs Reused 172 % increase over CY 2005

(SRMs = Supplemental Recyclable Materials such as waste tires, used oil, electronics, construction and demolition debris materials, etc.)

• MSW disposed 4 % increase over CY 2005 (MSW disposed = waste delivered to a sanitary landfill or incinerator for disposal)

As a subset of these categories, the commodity capture rates changed as indicated:

• Metals 20 % increase over CY 2005

| • | Paper           | 4 % decrease over CY 2005  |
|---|-----------------|--|
| • | Commingled      | 33 % increase over CY 2005, as would be expected with the growing use of single-stream collections |
|   |                 | with the growing use of single-stream concetions   |
| • | Used oil        | 22 % decrease over CY 2005   |
| • | Electronics     | 280 % increase over CY 2005, as new programs and eCycling vendors expanded collections             |
|   |                 | and ecycling vehicors expanded conections  |
| • | <b>Plastics</b> | stable at CY 2005 levels   |
| • | Glass           | 2 % decrease over CY 2005  |

The statewide recycling rate increased by 6.2 percentage points in CY 2006 over CY 2005. This increase was due in part to the recycling credits authorized for the recycling and reuse of non-MSW materials and source reduction initiatives.

### **SWPUs Meeting the Required Rate**

In each of the last four reporting years, more of the reporting entities are meeting the required recycling rate:

| Year (% meeting rate) | # Reports | 25 % or Greater | 15% to<br>25 % | # below mandated recycling rate |
|-----------------------|-----------|-----------------|----------------|---------------------------------|
| CY 2003 (35 %)        | 96        | 34              | n/a            | 62                              |
| CY 2004 (48 %)        | 95        | 46              | n/a            | 49                              |
| CY 2005 (61 %)        | 74        | 45              | n/a            | 29                              |
| CY 2006 (86 %)        | 74        | 46              | 18             | 10                              |

For CY 2006, a two-tiered recycling mandate was in effect as required by the *Code of Virginia* (http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+10.1-1411). Each SWPU was to achieve a minimum 25 % recycling rate *unless* its population density was less than 100 persons per square mile or its civilian unemployment rate was 50 % or more above the state wide unemployment average. SWPUs meeting these criteria were required to achieve a minimum 15 % recycling rate. Using this two-tiered recycling mandate system, 64 of the 74 SWPUs (or 86 %) met or exceeded their minimum mandated recycling rate. As was evidenced in previous years, the SWPUs reporting recycling rates less than 25 % are mostly

lightly populated in makeup, with limited recycling resources and access to markets.

### **Solid Waste Management Planning and Recycling Action Plans**

DEQ continues to review the required Solid Waste Management Plans (SWMPs) submitted by the SWPUs for completeness, including locality or regional recycling program information. For the plans already reviewed and in which the SWPU has reported less than a 15 % or 25 % recycling rate, DEQ will require a Recycling Action Plan (RAP) to identify specific elements of the recycling program that will be changed or improved in order for the SWPU to reach its recycling rate. The RAP requires both a commitment by the SWPU to provide resources necessary to improve its program, as well as a timeline for achieving the program elements. The RAP must be adopted by the administrative governmental board(s) for all localities covered by the Solid Waste Management Plan, and then approved by DEQ. Regular reporting on the progress made on the RAP elements is required.

#### **Recycling Data Concerns**

The Technical Advisory Committee (TAC) studying changes in the recycling requirements as a component of the *Regulations for Solid Waste Management Planning* (<a href="http://www.deq.virginia.gov/waste/wastereg130.html">http://www.deq.virginia.gov/waste/wastereg130.html</a>) due to the 2006 legislation requested this clarification be included in the annual report:

"Due to the complexity and difficulty in obtaining data, this report reflects the best efforts of the planning units to represent recycling in Virginia"

In addition, the TAC is on record encouraging the reporting of recycling data by all sectors in order to make these numbers as representative of the actual condition as possible:

"Entities engaged in the collection, processing and marketing of recyclable materials should provide data for incorporation into the recycling rate calculation, when requested by the planning unit".

# **Calculated Recycling Rates for CY 2006**

## **Recycling Rates and Data \***

| REPORTING ENTITY                  | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |
|-----------------------------------|----------------------------------|--|--|
| Statewide Totals                  | 38.4 % Statewide                 | 3,700,487  | 9,706,554  |
| Accomack County SWPU              | 16.3                             | 7,931  | 48,546   |
| Alexandria (City) SWPU            | 24.3                             | 49,344   | 202,895  |
| Alleghany Highlands SWPU          | 31 *                             | 8,896  | 25,703   |
| Amelia County SWPU                | 24.9                             | 2,572  | 10,332   |
| Amherst County SWPU               | 25.2                             | 9,186  | 36,518   |
| Appomattox County SWPU            | 29.1 *                           | 2,846  | 10,491   |
| Arlington County SWPU             | 42.7 *                           | 104,323  | 256,570  |
| Augusta –Staunton-Waynesboro SWPU | 28.7                             | 42,741   | 149,087  |
| Bath County SWPU                  | 15.8                             | 960  | 6,093  |
| Bedford (City) SWPU               | 37.5 *                           | 6,991  | 12,353   |
| Bedford County SWPU               | 37.8 *                           | 25,863   | 72,311   |
| Botetourt County SWPU             | 18.5 *                           | 5,763  | 28,343   |
| Bristol (City) SWPU               | 37.8                             | 15,814   | 41,786   |
| Brunswick County SWPU             | 8.5                              | 1,682  | 19,787   |
| Buckingham County SWPU            | 22.1                             | 3,019  | 13,664   |
| Campbell County SWPU              | 22.2                             | 15,015   | 67,710   |
| Caroline County SWPU              | 38.3                             | 7,583  | 19,812   |

| REPORTING ENTITY   | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |  |  |
|--|----------------------------------|--|--|--|--|
| Carroll-Grayson-Galax SWPU   | 19.2                             | 7,794  | 40,581   |  |  |
| Central Virginia Waste Management<br>Authority SWPU (Counties of<br>Charles City, Chesterfield,<br>Goochland, Hanover, Henrico, New<br>Kent, Powhatan, Prince George;<br>Cities of Richmond, Hopewell,<br>Colonial Heights and Petersburg) | 46.3                             | 400,323  | 865,551  |  |  |
| Craig County SWPU  | 26.1                             | 1,021  | 3,915  |  |  |
| Culpeper County SWPU   | 33.6                             | 14,430   | 42,917   |  |  |
| Cumberland Plateau Regional Waste<br>Management Authority SWPU<br>(Buchanan, Dickenson and Russell<br>Counties)  | 29.1                             | 23,032   | 79,157   |  |  |
| Danville (City) SWPU   | 28.1                             | 10,980   | 39,076   |  |  |
| Fairfax (City) SWPU  | 39.4 *                           | 19,361   | 49,091   |  |  |
| Fairfax County SWPU  | 35.3 *                           | 497,577  | 1,496,165  |  |  |
| Falls Church (City) SWPU   | 51.7 *                           | 6,898  | 13,881   |  |  |
| Fauquier County SWPU   | 25.3                             | 23,268   | 92,132   |  |  |
| Floyd County SWPU  | 11                               | 1,678  | 15,260   |  |  |
| Franklin County SWPU   | 30.5                             | 15,257   | 49,988   |  |  |
| Gloucester County SWPU   | 27.7                             | 13,915   | 50,163   |  |  |
| Greater Rockingham SWPU  | 25.7 *                           | 11,072   | 46,708   |  |  |
| Harrisonburg (City) SWPU   | 25.4 *                           | 30,303   | 75,881   |  |  |
| Herndon (Town) SWPU  | 39.1                             | 10,534   | 26,953   |  |  |
| Highland County SWPU   | 26.9                             | 624  | 2,320  |  |  |

| REPORTING ENTITY   | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |
|--|----------------------------------|--|--|
| King George County SWPU  | 13.2 *                           | 30,753   | 47,753   |
| Lee County SWPU  | 11 *                             | 12,706   | 30,210   |
| Loudoun County SWPU  | 30.2                             | 95,141   | 315,487  |
| Louisa County SWPU   | 23.8                             | 6,466  | 27,139   |
| Lunenburg County SWPU  | 12.2                             | 1,754  | 14,395   |
| Lynchburg (City) SWPU  | 46 *                             | 112,007  | 240,779  |
| Madison County SWPU  | 10.5                             | 829  | 7,865  |
| Manassas (City) SWPU   | 27                               | 11,327   | 41,923   |
| Manassas Park (City) SWPU  | 9.9                              | 625  | 6,322  |
| Martinsville (City)/Henry County<br>SWPU   | 27.7 *                           | 39,087   | 113,316  |
| Montgomery Regional Solid Waste<br>Authority SWPU (Montgomery<br>County, Blacksburg and<br>Christiansburg)                           | 27.3                             | 27,785   | 101,636  |
| Mount Rogers PDC SWPU (Counties of Bland, Smyth, Washington, and Wythe)  | 28.2                             | 29,337   | 103,963  |
| Newport News (City) SWPU   | 45.7 *                           | 214,834  | 362,782  |
| New River Resource Authority SWPU<br>(Counties of Pulaski and Giles; City<br>of Radford)   | 26.2                             | 22,589   | 86,070   |
| Northampton County SWPU  | 7.6 *                            | 1,775  | 21,673   |
| Northern Neck PDC SWPU (Counties of Lancaster, Northumberland, Richmond and Westmoreland)  | 20.2                             | 9,725  | 48,161   |
| Northern Shenandoah Valley Regional Commission SWPU (Counties of Clarke, Frederick, Shenandoah, Warren and Page; City of Winchester) | 28.8                             | 74,568   | 259,366  |

| REPORTING ENTITY   | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |  |  |
|--|----------------------------------|--|--|--|--|
| Nottoway County SWPU   | 26.9                             | 7,629  | 28,335   |  |  |
| Orange County SWPU   | 16.6 *                           | 4,014  | 21,024   |  |  |
| Patrick County SWPU  | 10.2                             | 967  | 9,446  |  |  |
| Pittsylvania County SWPU   | 23.9                             | 10,295   | 43,093   |  |  |
| Prince Edward - Cumberland SWPU  | 15.3                             | 4,352  | 28,354   |  |  |
| Prince William County SWPU   | 37 *                             | 167,402  | 478,068  |  |  |
| Rappahannock County SWPU   | 18.1                             | 1,693  | 9,366  |  |  |
| Rappahannock Regional Solid Waste<br>Management Board SWPU (County<br>of Stafford and City of<br>Fredericksburg)   | 40.4                             | 73,775   | 182,736  |  |  |
| Roanoke (City) SWPU  | 37.2                             | 29,918   | 80,459   |  |  |
| Roanoke County SWPU  | 29.3                             | 18,999   | 64,798   |  |  |
| Rockbridge – Lexington – Buena<br>Vista SWPU   | 24.5                             | 7,744  | 31,552   |  |  |
| Salem (City) SWPU  | 34                               | 12,291   | 36,168   |  |  |
| Scott County SWPU  | 19.7                             | 2,942  | 14,924   |  |  |
| Southeastern Public Service Authority SWPU (Counties of Isle of Wight and Southampton; Cities of Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk, and Virginia Beach) | <b>55</b> *                      | 908,103  | 1,686,015  |  |  |
| Southern Crater Region SWPU<br>(Counties of Dinwiddie, Greensville,<br>Surry, and Sussex; City of Emporia)   | 18.1                             | 13,285   | 73,439   |  |  |
| Southside Regional PSA SWPU<br>(Counties of Charlotte, Halifax and<br>Mecklenburg)   | 17.4                             | 19,216   | 110,649  |  |  |
| Spotsylvania County SWPU   | 31.3                             | 39,862   | 127,305  |  |  |

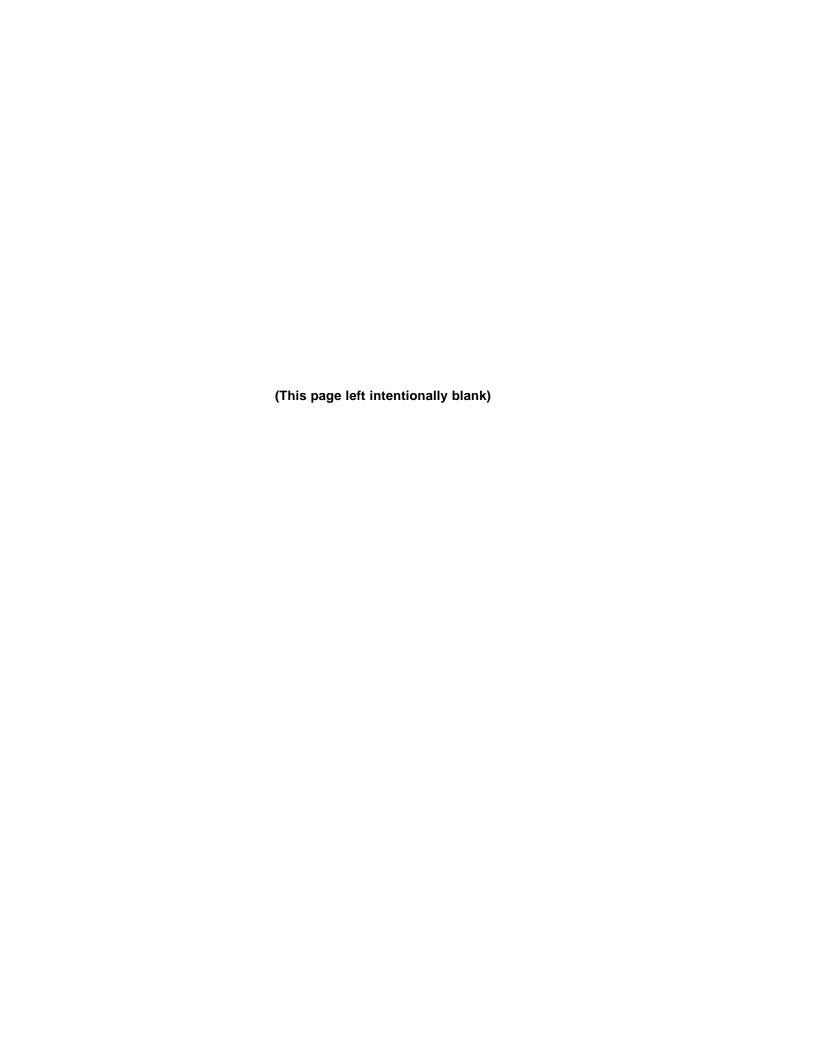
| REPORTING ENTITY  | CY 2006<br>Recycling Rate<br>(%) | CY 2006 Total<br>Recycled Tons<br>(PRMs + SRMs +<br>Credits) | CY 2006 Total MSW Generation Tons (PRMs + SRMs + Credits + MSW disposed) |
|---|----------------------------------|--|--|
| Tazewell County SWPU  | 26.2 *                           | 23,189   | 77,808   |
| Thomas Jefferson PDC SWPU<br>(Counties of Albemarle, Fluvanna,<br>Greene and Nelson; City of<br>Charlottesville)  | 34.3 *                           | 78,005   | 241,413  |
| Vienna (Town) SWPU  | 55.1                             | 6,651  | 12,078   |
| Vinton (Town) SWPU  | 35.7                             | 2,316  | 6,493  |
| Virginia Peninsulas Public Service<br>Authority SWPU (Counties of Essex,<br>James City, King & Queen, Mathews,<br>Middlesex, and York; Cities of<br>Hampton, Poquoson, and<br>Williamsburg) | 34.5 *                           | 159,703  | 446,662  |
| Wise County SWPU  | 32.7                             | 18,235   | 55,792   |
| STATEWIDE TOTALS CY 2006  | 38.4 %                           | 3,700,487<br>Tons  | 9,706,554<br>Tons  |

**PRMs** = **Principal Recyclable Materials** 

**SRMs** = **Supplemental Recyclable Materials** 

**Credits = Recycling Residues, Solid Waste Reused, Non-MSW Recycled, Source Reduction** 

<sup>\*</sup> All data based on adjustments by DEQ for consistency with 9VAC-20-130-10 and 9VAC20-130-120, with a 5 % maximum percentage allowed for credits to the base recycling rate calculated by a solid waste planning unit. A 2 % source reduction credit may be added to the calculated recycling rate for a documented source reduction program.



## **Recycling Rate Report Summary**

### **Virginia Localities Reporting Rate Information for CY 2006**

**74 Recycling Rate Reports**, representing **325 Virginia localities** and every **Solid Waste Planning Unit** were received. This represents a return rate of 100 %. Totals for all reports are presented below:

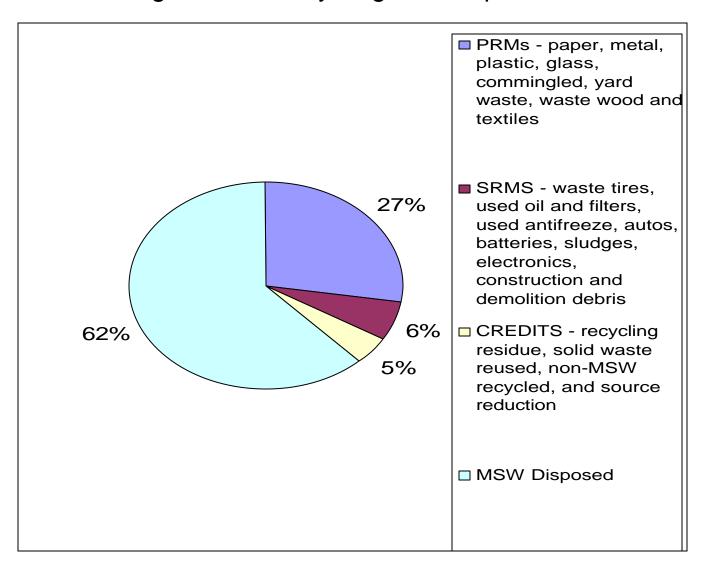
| Principal Recyclable Material |           | Supplemental Recyclable Material (SRM) |   |                         | Total MSW Disposed |   |           |
|-------------------------------|-----------|--|---|-------------------------|--------------------|---|-----------|
| (PR                           | M)        | Recycled SRM                           |   | Reused SRM              |                    |   |           |
| Paper                         | 922,024   | Waste Tires                            | 70,210                                  | Const. Waste            | 46,265             | Household   | 4,259,862 |
| Metal                         | 704,127   | Used Oil                               | 51,281                                  | Demol. Waste            | 37,430             | Waste   |           |
| Plastic                       | 30,159    | Used Oil Filters                       | 1,980                                   | Debris Waste            | 39,059             | Commercial  | 1,613,349 |
| Glass                         | 39,278    | Used Antifreeze                        | 2,633                                   | Ash                     | 218,833            | Waste   |           |
| Commingled                    | 112,413   | Auto Bodies                            | 9,127                                   | Other:                  | 1,244              | Institutional   | 70,940    |
| Yard Waste                    | 563,968   | Batteries                              | 18,825                                  |                         |                    | Waste   |           |
| Waste Wood                    | 243,076   | Sludge<br>(Composted)                  | 22,721                                  |                         |                    | Other:  | 61,915    |
| Textiles                      | 42,817    | Electronics                            | 7,820                                   |                         |                    |   |           |
|                               |           | Tree Stumps (>6"<br>Diameter)          | 53,089                                  |                         |                    | TOTAL<br>MSW (M)  | 6,006,067 |
| Total PRM (P) (Tons)          | 2,657,862 | Other:                                 | 21,227                                  |                         |                    | (Tons)  |           |
|                               |           | Recycled SRM<br>(Tons)                 | 258,914                                 | Reused<br>SRM<br>(Tons) | 342,830            | TOTAL<br>SRM (S)<br>(Tons)                                      | 601,744   |
|                               |           | CREDITS                                |   |                         |                    | ,   |           |
|                               |           | Recycling Residue                      | 11,648                                  |                         |                    |   |           |
|                               |           | Solid Waste<br>Reused                  | 390,483                                 |                         |                    |   |           |
|                               |           | Non-MSW<br>Recycled                    | 38,750                                  |                         |                    | State Recycling Rate: P+S+C+M) x 100 9,706,554)X100)+.3% 38.4 % |           |
|                               |           | TOTAL CREDITS (C) (Tons)               | 440,881                                 |                         |                    |   |           |
|                               |           | 2 % Source<br>Reduction Credit         | 18 entities,<br>equaling<br>.3% overall |                         | I                  |   |           |

<sup>\*</sup> All data based on adjustments by DEQ for consistency with 9VAC-20-130-10 and 9VAC20-130-120.

# **RECYCLING IN VIRGINIA, CY 2006**

## **Statewide Recycling Rate of 38.4 %**

## MSW Management - Recycling and Disposal



**PRMs** = **Principal Recyclable Materials** 

**SRMs** = **Supplemental Recyclable Materials** 

Credits = Recycling Residues, Solid Waste Reused, Non-MSW Recycled, Source Reduction